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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,772	04/10/2001	Klas C. Haglid	33152-2040	2771
31013	7590	05/06/2005	EXAMINER	
KRAMER LEVIN NAFTALIS & FRANKEL LLP INTELLECTUAL PROPERTY DEPARTMENT 1177 AVENUE OF THE AMERICAS NEW YORK, NY 10036			FORD, JOHN K	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,772

Applicant(s)

HAGLID, KLAS C.

Examiner

John K. Ford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/9/04 + 4/7/04
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-31 is/are pending in the application.
- 4a) Of the above claim(s) 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-28, 30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Applicant's response of August 9, 2004 has been given careful consideration. Counsel does not appear to clearly understand what the Examiner was objecting to in the July 8, 2004 office action. The Examiner never questioned what was done to claims 1-22. They are cancelled. What the examiner questioned was which of non-cancelled claims 23-31 read on the elected species. Applicant has answered that question clearly in the August 9, 2004 response. To summarize what is stated there, claims 23-28 and 30-31 are readable on the elected species and claim 29 is not. What the Examiner had wanted to see happen was that claim 29 to be captioned "withdrawn" so that the response to the election requirement would be clear. Claim 29 was not so designated. It still is captioned "original". In all future communications, please caption it as "withdrawn" to avoid further confusion.

Regarding the allegation that there is no known difference between canceling a claim and withdrawing it, the Examiner disagrees. The PTO handles these claims very differently. For example "withdrawn" claims may be "rejoined" at some future date whereas "cancelled" claims cannot. From Applicants' prospective the two terms may appear to be synonymous, but the PTO and the print contractor handle these claims very differently. Most importantly, before a case can be allowed "withdrawn" claims must be cancelled or rejoined. Withdrawn claims are "alive" during prosecution, but not being treated on the merits up until their cancellation or rejoinder.

Applicant elected, in the April 7, 2004 response, the first species of panel 40 shown in Figure 2 and the first species of starting material (comprising "sign board" with hollow passages between major faces, not the second species of starting material with

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no hollow passages between major faces). Applicant also elected the first species of indentation shown in Figure 6 wherein the "sign board" material is shown melted and compressed from one side. Applicant has stated that claim 23 is to be construed as generic to both the "sign board" starting material and the starting material disclosed in the description of Figure 13.

Claim interpretation

Note in claim 23, last paragraph, applicant uses the word "sheets", which has no antecedent basis in the claim. The Examiner assumes that applicant meant "surfaces", because, as stated above, applicant has stated that claim 23 is to be construed as generic to both the "sign board" starting material and the starting material disclosed in the description of Figure 13. Because the embodiment in Figure 13 does not have two distinct "sheets", it is assumed that the term "sheets" in generic claim 23 is referring to the opposite broad surfaces of the panel being claimed. Is the Examiner's understanding correct?

Rejections

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 27, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-47884.

As shown in Figure 5 the topmost panel 1 (made of polyethylene) has an upper broad surface that is smooth and flat and an opposite broad surface that has a plurality of indentations in it that define the lowermost gas flow passage cavities 24 in topmost panel 1. The other of the panels (the first of which is located immediately below the topmost panel 1) has gas flow conduits 25. These two types of panels (as described above) are interleaved in sequence, one after the other. The panels are assembled such that the broad surfaces of the other of the panels abut the indented surfaces of the first described panels.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23, 27, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated or in the alternative under 35 U.S.C. 103(a) as being obvious over EP 0044561.

EP '561, Figure 10, has a first upper panel, preferably made of plastic (see Abstract) that has a smooth bottom broad surface and a broad upper surface that is formed by the upper surfaces of elements 20 and the upper surfaces of the longitudinal elements shown on the plate with indented areas clearly visible between elements 20 and between the longitudinal elements shown on the plate that define passages for flows S1-S2. The other of the panels (only two representative panels are shown) define passages for flow P1-P2. These two types of panels (as described above) are interleaved in sequence, one after the other. The panels are assembled such that the broad surfaces of the other of the panels abut the indented surfaces of the first described panels. This piling of plates is shown in Figure 2, for example, in reference to another embodiment, and would have been obvious to have used in the Figure 10 embodiment to increase the heat exchange capacity of the device.

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '884 or EP '561 as applied to claim 23 above, and further in view of Hartig.

Hartig teaches fusion bonding of the edges of plastic air-to-air heat exchanger cores using a hot wire among other fusion means to advantageously improve the ruggedness and strength of the cores themselves. To have so formed either of the cores discussed above (i.e. JP '884 or EP '561) with fused edges to advantageously

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improve the ruggedness and strength of the cores themselves would have been obvious to one of ordinary skill in the art in view of the teaching of Hartig.

Claims 23, 25, 26, 27, 28 and 30 are rejected under 35 U.S.C. 103(a) as obvious over JP 3-271696 (Figs. 11-12) in view of Hartig.

Figures 11 and 12 show panels having broad faces with a plurality of indentations (103) in the upper surface. Those indentations, when they are contacted with the adjoining panel, form gas flow passages. The panels are not made of thermoplastic material. To have made them of thermoplastic material would have been obvious given that it is extremely inexpensive and well known in this art. See Hartig, USP 4,820,468, for example, which lists advantages and materials at col. 5, lines 16-47, incorporated here by reference. As discussed above, Hartig also teaches fusion bonding of the edges of plastic air-to-air heat exchanger cores using a hot wire among other fusion means to advantageously improve the ruggedness and strength of the cores themselves.

Claims 24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the prior art as applied to claim 23 above, and further in view of JP 5-157480 or JP 58-43398.

Comparison of Figures 3 and 4 of JP '480 shows the art recognized equivalence of plates for cross-flow heat exchangers and plates for counter-flow heat exchangers.

Similarly, Figures 3 and 4 of JP '398 teach the art recognized equivalence of cross-flow corrugated plate type heat exchangers (Fig. 3) and corrugated counter-flow plate type heat exchangers (Fig. 4).

To have formed any one of the cross-flow plates shown in JP '884 or JP '696 or EP '561 as counter flow plates by changing the pattern of corrugations as taught by either of JP '480 or JP '398 would have been obvious. All other things being equal, counter flow heat exchangers are known to be more efficient than cross-flow heat exchangers, motivation to have made the modification.


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to John Ford at telephone number (571) 272-4911.



John K. Ford
Primary Examiner